

CLAIMS

1. A system for receiving a call having priority in a call regulation,
5 comprising a mobile terminal and a base station,
said base station comprising a traffic measurement unit and a call
regulation transmission unit, wherein
said traffic measurement unit measures communication traffic by
receiving a call request signal transmitted from said mobile terminal and
10 counting the number of received signals in a unit of given time period,
said call regulation transmission unit transmits a call regulation signal
to regulate a call if a measured value of communication traffic is not less than a
given value, and releases a call regulation by transmitting a call regulation
signal carrying thereon a specific pattern indicating regulation-free if a
15 measured value of communication traffic is less than a given value,
said mobile terminal comprising a call request unit, a memory unit, and
a call request probability generation unit as a random number generator,
wherein
said memory unit stores a transmission destination telephone number
20 having priority,
said call request probability generation unit generates a call request
probability that is a random number N of a minimum value 1% to a maximum
value 100%,
said call request unit obtains a transmission destination telephone
25 number which has been requested by a subscriber, and receives a call
regulation signal from said base station, and obtains a call regulation value M1
for a transmission destination telephone number having priority and a call
regulation value M2 for other than a transmission destination telephone number
having priority ($M1 < M2$), and acquires said call request probability N by

allowing said call request probability generation unit to operate, and reads said transmission destination telephone number having priority from said memory unit of said mobile terminal, thereby confirming whether or not said transmission destination telephone number resides in said transmission destination telephone number having priority,

if said transmission destination telephone number exists in said transmission destination telephone number having priority, said call request unit compares said call request probability N with said call regulation value M1, and transmits a call request signal when said call request probability N is larger than said call regulation value M1, and discards a call request from a subscriber after outputting a call rejection message onto a display of said mobile terminal when it is smaller, and

conversely, if said transmission destination telephone number does not exist in said transmission destination telephone number having priority, said call request unit compares said call request probability N and said call regulation value M2, and transmits a call request signal when said call request probability N is larger than said call regulation value M2, and discards a call request from a subscriber after outputting a call rejection message onto a display of said mobile terminal when it is smaller.

2. The system for receiving a call having priority in a call regulation according to claim 1, said base station further comprising a time management unit and a timer, wherein

at an approach of the time for which a large number of calls are expected, said time management unit transmits in advance through said call regulation transmission unit a call regulation signal irrespective of a measured value of communication traffic, and allows said timer to operate after transmitting said call regulation signal, and after an elapse of a given time, releases a call regulation by transmitting a call regulation signal carrying

thereon a specific pattern indicating regulation-free.

3. The system for receiving a call having priority in a call regulation according to claim 1, further comprising a host device, wherein

5 said host device is a device that recognizes and manages, if an earthquake or a large disaster occurs, as to in which base station area such a disaster has occurred and whether it has terminated, and that notifies a corresponding base station of disaster information about occurrence and termination of a disaster by a disaster information signal,

10 said base station further comprising a disaster correspondence unit, wherein

 said disaster correspondence unit receives a disaster information signal from said host device, and if a disaster occurs, transmits a call regulation signal through said call regulation transmission unit irrespective of a measured
15 value of communication traffic, and if a disaster has terminated, releases a call regulation by transmitting a call regulation signal carrying a specific pattern indicating regulation-free.

4. A system for receiving a call having priority in a call regulation,
20 comprising a host device, a plurality of exchanging centers, a plurality of base stations under control of said exchanging centers, and a plurality of mobile terminals under control of said exchanging centers, the whole being connected to configure a network, wherein

 said host device is a device that manages telephone numbers
25 including telephone numbers of a fixed network, allowing a memory unit of said host device to store in advance a specific transmission destination telephone number for which a large number of calls are expected beforehand,

 said exchanging centers have a traffic measurement unit, a call regulation transmission unit, a memory unit, and a timer,

said traffic measurement unit within said exchanging center measures communication traffic by receiving a call request signal transmitted from said base station and counting the number of received signals in a unit of given time period, and registers a transmission destination telephone number along with the number of call requests corresponding to said transmission destination telephone number within a given number and in descending order of the number of call requests, on a list of said memory unit within the exchanging center,

said timer clears the list of said memory unit within said switching center in given times,

in the presence of a transmission destination telephone number, the number of call requests for which is not less than a given value on the list of said memory unit within said exchanging center, said call regulation transmission unit within said exchanging center confirms whether or not said transmission destination telephone number corresponds to said specific transmission destination telephone number rather than a transmission destination telephone number having priority, by said specific transmission destination telephone number registered in said memory unit of said host device,

if it corresponds to said specific transmission destination telephone number, said call regulation transmission unit within said exchanging center notifies a base station of a corresponding transmission destination telephone number by affixing it, as a regulation transmission destination telephone number, to a signal between a base station and an exchanging center and between an exchanging center and an exchanging center,

said call regulation transmission unit within said exchanging center notifies a base station of a specific pattern indicating regulation-free if the number of call requests for said regulation transmission destination telephone number which has been notified to a base station is less than a given value on

the list of said memory unit of said exchanging center,

said base stations comprising a traffic measurement unit and a call regulation transmission unit, wherein

said traffic measurement unit within said base station measures
5 communication traffic by receiving a call request signal transmitted from said mobile terminal and counting the number of received signals in given times,

said call regulation transmission unit within said base station transmits a call regulation signal to regulate a call if a measured value of communication traffic is not less than a given value, and transmits a call regulation signal by
10 affixing it to a regulation transmission destination telephone number within a call regulation signal if received said regulation transmission destination telephone number from said exchanging center even if a measured value of communication traffic is less than a given value, and releases a call regulation by transmitting a call regulation signal carrying a specific pattern indicating
15 regulation-free to said mobile terminal, if a measured value of communication traffic is less than a given value, and if received from said exchanging center a specific pattern indicating regulation-free of a regulation transmission destination telephone number,

said mobile terminal comprising a call request unit, a memory unit, and
20 a call request probability generation unit as a random number generator, wherein

said memory unit of said mobile terminal stores a transmission destination telephone number having priority,

said call request probability generation unit generates a call request
25 probability that is a random number N of a minimum value 1% to a maximum value 100%,

said call request unit acquires a transmission destination telephone number which has been requested by a subscriber, and receives a call regulation signal from said base station, and acquiring a call regulation value

M1 for a transmission destination telephone number having priority, a call regulation value M2 for other than a transmission destination telephone number having priority and a regulation transmission destination telephone number, and a call regulation value M3 for a regulation transmission
5 telephone number ($M1 < M2 < M3$), as well as a regulation transmission destination telephone number, and acquires said call request probability N by allowing said call request probability generation unit to operate, and reads said transmission destination telephone number having priority from said memory unit of said mobile terminal, thereby confirming whether or not said
10 transmission destination telephone number resides in said transmission destination telephone number having priority,

said call request unit compares said call request probability N and said call regulation value M1 if the transmission destination telephone number resides in said transmission destination telephone number having priority, and
15 transmits a call request signal when said call request probability N is larger than said call regulation value M1, and discards a call request from a subscriber after outputting a call rejection message onto a display of said mobile terminal when it is smaller,

conversely, if said transmission destination telephone number does
20 not reside in said transmission destination telephone number having priority, said call request unit confirms whether it resides in said regulation transmission destination telephone number within said call regulation signal, and compares said call request probability N and said call regulation value M2 if it does not reside, and transmits a call request signal when said call request probability N
25 is larger than said call regulation value M2, and discards a call request from a subscriber after outputting a call rejection message onto a display of said mobile terminal when it is smaller, and

conversely, if said transmission destination telephone number resides in said regulation transmission destination telephone number, said call request

unit compares said call request probability N and said call regulation value M3, and transmits a call request signal when said call request probability N is larger than said call regulation value M3, and discards a call request from a subscriber after outputting a call rejection message onto a display of said mobile terminal when it is smaller.

5. The system for receiving a call having priority in a call regulation according to claim 4, wherein said specific transmission destination telephone number for which a large number of calls are expected beforehand is a ticket reservation destination telephone number.

6. The system for receiving a call having priority in a call regulation according to claim 4, wherein

said host device further comprises a time management unit and a timer,

at an approach of the time for which a large number of calls are expected beforehand, said time management unit notifies in advance a base station of a regulation transmission destination telephone number by affixing it to a signal between a base station and an exchanging center and between an exchanging center and an exchanging center, irrespective of a measured value of communication traffic, and

after notifying a regulation transmission telephone number, said time management unit allows said timer of said host device to operate, and after an elapse of a given time, releases a call regulation by notifying a base station of a specific pattern indicating regulation-free.

7. A method for receiving a call having priority with use of a system for receiving a call having priority in a call regulation, said system comprising a mobile terminal and a base station,

said base station comprising a traffic measurement unit and a call regulation transmission unit,

said mobile terminal comprising a call request unit, a memory unit, and a call request probability generation unit as a random number generator,

5 said method comprising:

by means of said traffic measurement unit, measuring communication traffic by receiving a call request signal transmitted from said mobile terminal and counting the number of received signals in given times,

10 by means of said call regulation transmission unit, transmitting a call regulation signal to regulate a call if a measured value of communication traffic is not less than a given value, and releasing a call regulation by transmitting a call regulation signal carrying a specific pattern indicating regulation-free if a measured value of communication traffic is less than a given value,

15 storing a transmission destination telephone number having priority in said memory unit,

generating a call request probability that is a random number N of a minimum value 1% to a maximum value 100% by said call request probability generation unit,

20 with said call request unit, acquiring a transmission destination telephone number which has been requested by a subscriber, and receiving a call regulation signal from said base station, and acquiring a call regulation value M1 for a transmission destination telephone number having priority and a call regulation value M2 for other than a transmission destination telephone number having priority ($M1 < M2$), and obtaining said call request probability N
25 by allowing said call request probability generation unit to operate, and reading said transmission destination telephone number having priority from said memory unit, thereby confirming whether or not said transmission destination telephone number resides in said transmission destination telephone number having priority,

if said transmission destination telephone number resides in said transmission destination telephone number having priority, comparing said call request probability N and said call regulation value M1, and transmitting a call request signal when said call request probability N is larger than said call regulation value M1, and discarding a call request from a subscriber after outputting a call rejection message onto a display of said mobile terminal when it is smaller, and

conversely, if said transmission destination telephone number does not reside in said transmission destination telephone number having priority, comparing said call request probability N with said call regulation value M2, and transmitting a call request signal when said call request probability N is larger than said call regulation value M2, and discarding a call request from a subscriber after outputting a call rejection message onto a display of said mobile terminal when it is smaller.

8. A method for receiving a call having priority with use of a system for receiving a call having priority in a call regulation according to claim 6, said base station further comprising a time management unit and a timer,

said method comprising:

with said time management unit, at an approach of the time for which a large number of calls are expected, transmitting in advance a call regulation signal by said call regulation transmission unit irrespective of a measured value of communication traffic, and allowing said timer to operate after transmitting said call regulation signal, and after an elapse of a given time, releasing a call regulation by transmitting a call regulation signal carrying a specific pattern indicating regulation-free.

9. A method for receiving a call having priority with use of a system for receiving a call having priority in a call regulation according to claim 6, said

system including a host device that recognizes and manages, if an earthquake or a large disaster occurs, as to in which base station area such a disaster has occurred and terminated, said base station further comprising a disaster correspondence unit,

5 by means of said host device, notifying a corresponding base station of disaster information about occurrence and termination of a disaster by a disaster information signal, and

 by means of said disaster correspondence unit, receiving a disaster information signal from said host device, and if a disaster occurs, transmitting a
10 call regulation signal by said call regulation transmission unit irrespective of a measured value of communication traffic, and if a disaster has terminated, releasing a call regulation by transmitting a call regulation signal carrying a specific pattern indicating regulation-free.

15 10. A method for receiving a call having priority by the use of a system for receiving a call having priority in a call regulation, said system comprising a host device that manages telephone numbers including telephone numbers of a fixed network, a plurality of exchanging centers, a plurality of base stations under control of said exchanging centers, and a plurality of
20 mobile terminals under control of said exchanging centers, the whole being connected to configure a network,

 said exchanging centers comprising a traffic measurement unit, a call regulation transmission unit, a memory unit, and a timer,

 said base stations comprising a traffic measurement unit and a call
25 regulation transmission unit,

 said mobile terminal comprising a call request unit, a memory unit, and a call request probability generation unit as a random number generator,

 said method comprising:

 allowing a memory unit of said host device to store a specific

transmission destination telephone number for which a large number of calls are expected beforehand;

with said traffic measurement unit within said exchanging center, measuring communication traffic by receiving a call request signal transmitted from said base station and counting the number of received signals in given times, and registering a transmission destination telephone numbers along with the number of call requests for said transmission destination telephone number within a given number and in descending order of the number of call requests, on a list of said memory unit within said exchanging center;

clearing the list of said memory unit within said exchanging center in given times by said timer,

in the presence of a transmission destination telephone number, the number of call requests for which is not less than a given value on the list of said memory unit within said exchanging center, with said call regulation transmission unit within said exchanging center, confirming whether or not said transmission destination telephone number corresponds to said specific transmission destination telephone number rather than a transmission destination telephone number having priority, by said specific transmission destination telephone number registered in said memory unit of said host device;

if it corresponds to said specific transmission destination telephone number, with said call regulation transmission unit within said exchanging center, notifying a base station of a corresponding transmission destination telephone number by affixing it, as a regulation transmission destination telephone number, to a signal between a base station and an exchanging center and between an exchanging center and an exchanging center;

with said call regulation transmission unit within said exchanging center, notifying a base station of a specific pattern indicating regulation-free if the number of call requests for said regulation transmission destination

telephone number which has been notified to a base station is less than a given value on the list of said memory unit of said exchanging center;

with said traffic measurement unit within said base station, measuring communication traffic by receiving a call request signal transmitted from said mobile terminal and counting the number of received signals in given times;

with said call regulation transmission unit within said base station, transmitting a call regulation signal to regulate a call if a measured value of communication traffic is not less than a given value, and transmitting a call regulation signal by affixing it to a regulation transmission destination telephone number within a call regulation signal if received said regulation transmission destination telephone number from said exchanging center even if a measured value of communication traffic is less than a given value, and releasing a call regulation by transmitting a call regulation signal carrying thereon a specific pattern indicating regulation-free to said mobile terminal, if a measured value of communication traffic is less than a given value, and if received from said exchanging center a specific pattern indicating regulation-free of a regulation transmission destination telephone number;

storing a transmission destination telephone number having priority in said memory unit of said mobile terminal;

generating a call request probability that is a random number N of a minimum value 1% to a maximum value 100% by said call request probability generation unit;

with said call request unit, acquiring a transmission destination telephone number which has been requested by a subscriber, and receiving a call regulation signal from said base station, and obtaining a call regulation value $M1$ for a transmission destination telephone number having priority, a call regulation value $M2$ for other than a transmission destination telephone number having priority and a regulation transmission destination telephone number, and a call regulation value $M3$ for a regulation transmission destination

telephone number ($M1 < M2 < M3$), as well as a regulation transmission destination telephone number, and obtaining said call request probability N by allowing said call request probability generation unit to operate, and reading said transmission destination telephone number having priority from said memory unit of said mobile terminal, thereby confirming whether or not said transmission destination telephone number resides in said transmission destination telephone number having priority;

if said transmission destination telephone number resides in said transmission destination telephone number having priority, comparing said call request probability N and said call regulation value M1, and transmitting a call request signal when said call request probability N is larger than said call regulation value M1, and discarding a call request from a subscriber after outputting a call rejection message onto a display of said mobile terminal when it is smaller,

conversely, if said transmission destination telephone number does not exist in said transmission destination telephone number having priority, confirming whether or not it exists in said regulation transmission destination telephone number within said call regulation signal, and comparing said call request probability N and said call regulation value M2 if it does not exist, and transmitting a call request signal when said call request probability N is larger than said call regulation value M2, and discarding a call request from a subscriber after outputting a call rejection message onto a display of said mobile terminal when it is smaller; and

conversely, if said transmission destination telephone number exists in said regulation transmission destination telephone number, comparing said call request probability N with said call regulation value M3, and transmitting a call request signal when said call request probability N is larger than said call regulation value M3, and discarding a call request from a subscriber after outputting a call rejection message onto a display of said mobile terminal when

it is smaller.

11. A method for receiving a call having priority by the use of a system for receiving a call having priority in a call regulation according to claim 10, wherein said specific transmission destination telephone number for which a large number of calls are expected beforehand is a ticket reservation destination telephone number.

12. A method for receiving a call having priority by the use of a system for receiving a call having priority in a call regulation according to claim 10, said host device further comprising a time management unit and a timer, said method comprising:

at an approach of the time for which a large number of calls are expected beforehand, by means of said time management unit, notifying in advance a base station of a regulation transmission destination telephone number by affixing it to a signal between a base station and an exchanging center and between an exchanging center and an exchanging center irrespective of a measured value of communication traffic; and

allowing said timer of said host device to operate after notifying a regulation transmission telephone number, and after an elapse of a given time, releasing a call regulation by notifying a base station of a specific pattern indicating regulation release.

13. A program for allowing a computer or a microprocessor to execute a method for receiving a call having priority with use of a system for receiving a call having priority in a call regulation according to claim 7.

14. A mobile communication system comprising:
a mobile terminal comprising a first memory storing a plurality of call

regulation values, a second memory storing a telephone number associated with one of said plurality of call regulation values, and a random number generator; and

a base station comprising means for transmitting a call regulation signal, wherein

when receiving said call regulation signal from said base station, said mobile terminal compares a telephone number on the point of calling with a telephone number stored in said second memory, and if they agree, judges whether a call is possible or not depending on said call regulation value associated with said telephone number and output of said random number generator.

15. A mobile communication terminal of a mobile communication system comprising:

a first memory storing a plurality of call regulation values, a second memory storing a telephone number associated with one of said plurality of call regulation values, and a random number generator, wherein

when receiving a call regulation signal from a base station, a telephone number on the point of calling is compared with a telephone number stored in said second memory, and if they agree, judges whether a call is possible or not depending on said call regulation value associated with said telephone number and output of said random number generator.